

THE FOLLOWING ARE THE ENGLISH TRANSLATION  
OF ANNEXES TO THE INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT (ARTICLE 34):

Amended Sheets (Pages 27-30)

CLAIMS

1. A laser processing apparatus for irradiating  
a work piece with a laser beam to process the  
5 irradiated portion comprising:  
a laser oscillator for generating said laser  
beam;  
an irradiation position control optical system  
for causing said laser beam to irradiate a  
10 predetermined position on said work piece; and  
a plurality of optical path systems for guiding  
the laser beam emitted from said laser oscillator to  
said irradiation position controlling optical system,  
wherein said plurality of optical path systems  
15 includes at least a first optical path system that  
guides said laser beam emitted from said laser  
oscillator to said irradiation position control  
optical system without changing its energy  
distribution in the direction perpendicular to the  
20 optical axis of the laser beam and a second optical  
path system that guides said laser beam emitted from  
said laser oscillator to said irradiation position  
control optical system while changing its energy  
distribution in the direction perpendicular to the  
25 optical axis of the laser beam.

2. A laser processing apparatus for irradiating

a work piece with a laser beam to process the irradiated portion comprising:

a laser oscillator for generating said laser beam;

5 an irradiation position control optical system for causing said laser beam to irradiate a predetermined position on said work piece; and

a plurality of optical path systems for guiding the laser beam emitted from said laser oscillator to  
10 said irradiation position controlling optical system,

wherein said plurality of optical path systems includes at least a first optical path system that guides said laser beam emitted from said laser oscillator to said irradiation position control  
15 optical system without changing the energy intensity of the laser beam and a second optical path system that changes the energy distribution in the direction perpendicular to the optical axis thereof by preventing a portion of the laser beam emitted from  
20 said laser oscillator from reaching said irradiation position control optical system.

3. A laser processing apparatus according to claim 1 or 2, further comprising optical path  
25 switching means for switching the optical path that is used in guiding said laser beam.

4. A laser processing apparatus according to claim 1 or 2, wherein the switching of said optical path systems is performed during an off-time of the pulse irradiation of said laser beam.

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5. A laser processing apparatus according to claim 1 or 2, wherein the second optical path system that changes the energy distribution of said laser beam includes a mask that makes the energy  
10 distribution in the direction perpendicular to the optical axis of the laser beam substantially uniform.

6. A laser processing apparatus according to claim 5, wherein the second optical path system that  
15 changes the energy distribution of said laser beam includes a homogenizer that makes the energy distribution in the direction perpendicular to the optical axis of the laser beam substantially uniform.

20 7. A laser processing method for irradiating a work piece with a laser beam to process the irradiated portion, comprising:

a first processing step of irradiating a predetermined position on said work piece with a  
25 laser beam emitted from a laser oscillator without changing its energy distribution in the direction perpendicular to the optical axis of said laser beam;

a laser beam switching step of stopping the irradiation with said laser beam that is not changed in its energy distribution and guiding a laser beam that is formed by changing the energy distribution in  
5 the direction perpendicular to the optical axis, of the laser beam emitted from said laser oscillator to said predetermined position on said work piece; and

a second processing step of performing irradiation with said laser beam that has been  
10 changed in the energy distribution.

8. A processing method according to claim 7, wherein said laser beam switching step is performed during an off-time of the pulse irradiation of the  
15 laser beam emitted from said laser oscillator.

9. A method according to claim 7, wherein the energy intensity distribution of said laser beam that has been changed in the energy distribution guided  
20 onto said work piece is made uniform.

10. A method of manufacturing a circuit board comprising a step of performing a perforation processing on a ceramic green sheet and a step of  
25 filling the hole formed with an electrode material, said perforation processing comprising:

a first processing step of irradiating a

predetermined position on said ceramic green sheet  
with a laser beam emitted from a laser oscillator  
without changing its energy distribution in the  
direction perpendicular to the optical axis of said  
5 laser beam;

a laser beam switching step of stopping the  
irradiation with said laser beam that is not changed  
in its energy distribution and guiding a laser beam  
that is formed by changing the energy distribution in  
10 the direction perpendicular to the optical axis, of  
the laser beam emitted from said laser oscillator to  
said predetermined position on said work piece; and

a second processing step of performing  
irradiation with said laser beam that has been  
15 changed in the energy distribution.